

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Previously Presented): A fabrication process for an optical microsystem with a monolithic electronic matrix; comprising the steps of:

fabricating collectively N dot matrix arrays and circuits associated with each array, on the front of a semiconductor wafer of a thickness of at least around one hundred or several hundred microns;

producing on this wafer N identical monolithic electronic chips, with, on at least one side of each array, a set of electrical contact lands for connecting the corresponding chip externally;

fabricating collectively a plate for forming N identical optical image forming structures placed in close contact with the front of the semiconductor wafer, each optical image-forming structure covering a respective chip and being designed to form an overall image corresponding with the whole of the matrix array of the respective chip,

opening holes at the back and through to the contact lands on the front of the semiconductor wafer and through its thickness, these holes are used to establish a conductive electrical connection with the contact lands from the back of the wafer, and, dividing the wafer into N individual optical microsystems, the separation between the chips and the separation between the optical structures covering the chips being carried out along the same cutting lines.

2. (Previously Presented): The process as claimed in claim 1, comprising:

forming a sealing bead around each chip for bonding the chip with the optical image-forming structure,

depositing the bead in rows and columns at the collective fabrication stage, on the semiconductor wafer or on the plate intended to form the optical structures,

wherein at the end of the collective fabrication steps on the wafer, the wafer and the plate are cut along rows and columns extending in the direction of the sealing beads, centered widthwise along the latter.

3. (Previously Presented): The process as claimed in claim 1, intended for the fabrication

of a liquid crystal microdisplay, a liquid crystal being contained in a cavity formed between the chip and the plate intended to form the optical structures, further comprising:

a filling hole is made, for each chip, through the thickness of the semiconductor wafer, and in that the filling is carried out and a plug is formed in the hole after filling, before carrying out separation of the wafer and of the plate into individual microsystems.

4. (Canceled)

5. (Canceled)

6. (Original): The process as claimed in claim 2, intended for the fabrication of a liquid crystal microdisplay, a liquid crystal being contained in a cavity formed between the chip and the plate intended to form the optical structures, further comprising:

a filling hole is made, for each chip, through the thickness of the semiconductor wafer, and in that the filling is carried out and a plug is formed in the hole after filling, before carrying out separation of the wafer and of the plate into individual microsystems.